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ABSTRACT

Micropublishing, a new technology, has provided small-circulation periodicals, which have little advertising revenues, with an alternative to escalating costs of traditional paper publication. The process of micropublishing which is most serviceable for short-run periodicals involves the use of microfiche--a small piece of film which can contain photo reductions of up to 98 pages of written or pictorial photocopy. The greatest advantage of using microfiche is its economy compared to the cost of printing, but the reader must insert the fiche into a viewer to enlarge each frame to the original page size so that it can be easily read. During transition to microfiche it is advisable to publish short-run publications in both microfiche and standard print. Although microfiche magazines appeal to institutional subscribers (particularly libraries), individual subscribers may consider them inconvenient and may be resistant to micropublications until they are more widely accessible and less expensive than printed equivalents. If the current trend continues, the transition to microfiche may occur despite the reluctance of readers and magazine publishers. (EE)

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MICROFORM PUBLISHING:

SALVATION FOR SHORT-RUN PERIODICALS?

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MICROFORM PUBLISHING:
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When Life magazine died, the obituary received front-page space in the newspapers, but when Better Health or Charisma Digest or Gas Age (and at least 1,300 other small-circulation periodicals) passed away, the death notice was only a few lines in the "Cessations" section of the 1971-72 Ulrich's International Periodicals Directory.

No doubt, it has always been thus: when battle casualties are announced, generals get more attention than privates do. But there are more privates than generals; there are more small-circulation, specialized publications than mass-circulation, consumer magazines. And for those who are interested in the total area of magazine journalism, the plight of the numerous small publications is at least as important as that of the few giants.

Magazines go out of existence for a great variety of reasons: competition from other media, changes in public interests and tastes, death or retirement of strong editors, and so on. But certainly one of the principal causes is economic -- the inability of income to keep up with soaring expenses. Except for the few publications which can meet deficits with subsidies (Commonweal, for example) or tax write-offs (as is true of The New Republic), those which face a large or extended excess of expense over income must either merge or die.

One of the popular notions today is that this economic crunch is hitting hardest at the general consumer publications. No doubt, many of the big slicks have died and others are hurting; whereas, in contrast, many special interest periodicals seem to be doing very well. But some of the highly specialized publications -- especially those with circulations under 50,000 and with little advertising income -- are in an exceedingly precarious position.[1]

The few such small circulation publications which do contain paid advertising have little hope of significantly increasing income by raising advertising rates. Because circulation is low and advertising sales and production costs are high, many of them already have exceedingly costly page-per-thousand rates. As a result, present and potential advertisers are finding it more economical to employ alternative means -- especially direct mail -- for reaching their customers. Additional advertising rate increases, therefore, would only further price these publications out of the market.

Thus for most small-circulation periodicals, the last hope for increasing income seems to be to raise subscription prices. But here, too, one questions how much higher these prices can go. Just as an example, Table 1 shows some of the increases that have taken place during the last half-dozen years.

Not all small publications have had to make such enormous jumps in their subscription costs, of course. But any subscription price increase normally results in some loss in circulation. Furthermore, as circulation decreases, the printing

cost per copy increases. Thus it is easy to see how even a series of small "upward adjustments" in subscription prices can easily direct a publication into a downward spiral toward oblivion.

If there are only slim chances of achieving salvation by going through the door marked "Increase income," then the only hope seems to lie in trying the door labeled "Cut costs."

That door, obviously, is not easy to locate. In fact, it is because costs in such major items as paper, printing, and postage are going up that short-run magazines are in a bind in the first place. If there were a way of avoiding some of these factors which are contributing to escalating costs, there might be hope.

Fortunately, the new technology has provided magazines -- and especially the small-circulation magazines -- with such an option. I am referring to what is called micropublishing.

Micropublishing can be achieved in a variety of ways, but the process which seems most serviceable for short-run periodicals is that which involves the use of microfiche.[2]

As anyone who has done extensive library research knows, a standard microfiche is a piece of film, about the size of a picture postcard, on which can be produced in miniature up to 98 pages of any written or pictorial materials -- including magazine pages. By inserting a fiche into a suitable viewer, one can enlarge each frame to the original page size for easy reading.

Microfiche has a great number of advantages, but one of

the greatest is its economy compared to the cost of printing. Once a publication is ready to be sent to a printer -- in other words, once the composition, layout, and pasteup or form make-ready processes have been completed -- it is possible to produce duplicate copies in fiche at a fraction of the cost required to print these copies on paper.

Perhaps some specific examples will make this clear. Let's say we have a rather typical publication: 96 pages, 8 1/2" x 11" trim size, printed offset on 70 pound stock, and containing 10 moderate-size half-tones. And let us compare, at various circulation levels, these printing costs (including the costs for plates, paper, ink, press time, and binding) with the costs for producing these copies in microfiche. The results would be approximately as indicated in Table 2.

Two important cautions should be noted in these and in other cost comparisons..

First of all, the printing costs given here are those charged in the midwest by experienced and highly reliable printers who provide good quality service.[3] Other printers in other areas of the country might charge anywhere from ten percent more to ten percent less than the figures listed on these tables. Even if one reduced these printing costs by ten percent, however, fiche would still have an economic advantage for press runs up to approximately 50,000.

Secondly, the cost of mailing the finished product to subscribers has been omitted from these comparisons. In spite of the fact that a fiche is only four by six inches in size and

weighs only one-sixth of an ounce, it costs more to mail microfiche than it does to mail a printed publication. This is due to one of the anachronisms of present postal regulations, which insist that only periodicals composed of "printed sheets" can qualify for second-class mailing privileges. Fiche must be mailed either third class (at an increased cost, compared to second class, of about one-half cent to three cents per piece) or first class (at an increased cost of about four to nearly seven cents per piece.) Thus, even though microfiche has, according to Table 2, a small cost advantage even beyond the 50,000 circulation category, beyond that point the savings would probably be offset by the greater postal costs.

The circulation figure up to which microfiche publishing is less expensive than print publishing is of major importance. To the best of my knowledge, no one knows the circulation of all the some 30,000 periodicals published in the United States. But in conjunction with a research project unconnected with this one, a check was made of all the periodicals subscribed to by the major libraries at Marquette University. Even omitting all periodicals which have ceased publication, which are published outside the United States, which are published less frequently than quarterly, which are published by any unit of the government, and which have circulations greater than 35,000, we discovered that this one library complex contained 1,666 short-run periodicals. Every one of these publications -- and undoubtedly many more -- could probably save a considerable amount of money by switching from printing to microfiching.

Since the figures given in Table 2 apply to only a single issue of a magazine, one has to multiply these figures by the number of issues published per year in order to appreciate the annual savings which are possible by switching to microfiche. A monthly magazine with a circulation of 10,000, for example, could save $25,000 a year if microfiching were substituted for printing.

Comparable savings are possible for publications of different quality or format. For example, four-color reproduction is economically feasible for most printed publications only if they have enormous circulations, high subscription costs or heavy subsidies. But when microfiche is used, full-color reproduction is feasible for the publications with a small print order. Table 3 indicates some of the comparative costs. It should be noted, furthermore, that the print costs are based on the assumption that only ten color separations would be used, and that all of the color would be printed on a single signature. Greater use of color would, of course, greatly increase the printing costs. But the same is not true for the microfiche version. Since the fiche is, in effect, a single piece of film, every miniature page on that fiche could be in full color without any addition to the cost.

As a final example, let us consider journals of the size of the Journalism Quarterly -- in other words, publications with the smaller, 6" x 9" trim size but with nearly two hundred pages of editorial material. If, instead of being printed, these journals were produced on standard microfiche, two fiche

would have to be used. (It would be possible to use a single ultrafiche -- some of which have a capacity of up to 3,280 pages -- for these publications, but the viewers needed to read ultrafiche are not widely available.) As Table 4 shows, in spite of a nearly two-fold increase in the microfiching costs, the fiche version is still considerably less expensive than the printed version for short-run periodicals.

But if microfiching is really the water of salvation for small circulation publishers, why is it that so few of those publishers are lining up at the baptismal font? Part of the answer can be found in the history of other technological innovations in the field of communications. Consider, for example, long-playing records, FM broadcasting, ultra high frequency and then color telecasting -- in all of these instances there was a period during which the companies were claiming there was no point in investing in the equipment because there were so few products available. Why televise in color if most people do not have color tv sets? Why buy a color tv set if most programs are being televised in black and white? Which should come first, the chicken or the egg?

In all of these other instances, of course, the dilemma was eventually resolved. It took an act of Congress to convince televison set manufacturers to produce sets capable of receiving UHF as well as VHF channels, but otherwise the communications companies and industries themselves took the initiative once they were convinced that the innovations would have market acceptability.

But it is precisely in reference to this point -- market acceptability -- that the publishers of small-circulation magazines are digging-in their heels. The publishers strongly doubt that their readers will accept a microfiche in place of a printed publication. Their doubts seem well founded. A fiche magazine can not be read until the fiche is inserted into a suitable viewer, and it can not be read at all unless the subscriber purchases or has access to such a viewer; a printed magazine, on the other hand, can be read as soon as it arrives in the mail. All this appears to indicate that the subscriber would resist rather than accept a microfiche publication. In other words, microfiche publishing may be a great idea, but it won't sell.

At this point, however, it is important to recognize that most small circulation publications have two types of subscribers: the individual who, either directly or through his membership in some organization, acquires his copies primarily for his own personal use; the institution -- primarily the scholarly, scientific, industrial, or research library -- which acquires copies for the convenience of all who are patrons of that institution.

For most of the individual subscribers, it is true, there is little incentive to request fiche rather than a printed publication. Although microfiche viewers cost less than half the price of a standard office typewriter, not many individual subscribers have, as yet, purchased their own personal viewers. And reading a fiche on a viewer is less convenient than reading a

printed publication. Individual subscribers, therefore, could probably be moved to accept fiche only if it were to their economic advantage to do so. Since microfiching is less expensive than printing, it would seem reasonable for publishers to offer fiche subscriptions at a cost lower than that for printed publications, or at least to maintain fiche subscriptions at the present level when the subscription price for the printed version has to be increased. Such cost differentials would encourage a gradual movement to microfiche publishing, to the benefit of both the magazine publishers and the magazine readers.

But for the institutional subscriber there already exists a strong incentive for preferring microfiche rather than print. The librarian's interest in a periodical does not end after the magazine has been received, catalogued and placed on the shelf. At some later time, the librarian must remove the individual copies from the shelf, have them bound as an annual volume, and then find shelf space again for the bound volume. These additional activities involve expenses which could be eliminated or significantly reduced if the periodical were in the form of fiche instead of print.

For example, according to a study made by the Center for Research Libraries, binding costs alone now range from $7.00 to $11.00 per periodical.[4] The same report also indicated that "large university research libraries typically receive 10,000 to 20,000 or more current serials."[5] In other words, since microfiche does not need to be bound, librarians can foresee the saving of thousands -- even of hundreds of thousands --

of dollars each year in binding costs if the libraries could obtain fiche rather than print versions of periodicals.

And this is only the tip of the iceberg, for also of major importance is the savings in space which is made possible through microfiche publishing. A journal in the form of fiche occupies approximately five percent of the space required for its printed equivalent. In other words, the publications that occupy twenty running feet of shelf space when produced in printed form can be fitted into a shoe box when produced in microfiche.

Fiche also eliminates other problems, such as the unavailability of printed copies during the time when they are "out for binding" and the enormous difficulties in replacing bound volumes if they are mutilated. Moreover, most libraries today are completely equipped with microfiche viewers and even with reader-printers, from which a patron can obtain a hard-copy enlargement of a microfiche frame for only ten cents.

The present situation for the subscribers to short-run periodicals, therefore, seems to be this:

*Most individual subscribers would probably be opposed to microfiche magazines, and will continue to be opposed until such magazines are more widely available and less expensive than printed periodicals.

*Most institutional subscribers -- particularly libraries -- strongly favor microfiche magazines, especially if they can be obtained at the same time that the printed equivalent is available.[6]

This situation suggests that the best course of action for the near future would be to publish short-run publications in two forms: in microfiche for libraries and for the few individual subscribers who own and are accustomed to using microfiche viewers; in print for all of the other subscribers.

A publisher might be tempted to reject such a suggestion, for it seems to wipe out the major advantage -- economy -- possessed by microfiche. It is obvious, of course, that, if the circulation of a publication stays the same, for every copy produced in fiche there would be one less copy produced in print. And since the per-copy printing cost increases as the number of copies printed decreases, a publisher might think that partial conversion to fiche might raise, instead of lower, his total costs.

But a reexamination of Table 2 reveals that this is not necessarily true. For example, according to that Table, costs for a periodical with a circulation of 10,000 would be approximately $3,625 if all of the copies were printed. If only half of the copies were produced in print and the other half were produced in fiche, the <u>combined</u> cost for the two forms would be only $2,925 -- a savings of approximately $700 per issue. In other words, the economic advantages of fiche are so great when small quantities are involved that even a partial conversion can provide some savings.

In general, therefore, the transition to microfiche on the part of small-circulation magazines can be described as a push-pull movement. The push is coming from the libraries which

subscribe to these magazines -- and for short-run, specialized publications, library subscriptions constitute a relatively high percentage of the total subscription list -- as these institutional subscribers demand microfiche in order to reduce their own soaring costs. At the moment, however, the energy behind the pull is much stronger than that which is behind the push.[7] If this tendency continues, the conversion to microfiche may take place in spite of the reluctance of some magazine to be converted. But perhaps in the magazine world, even forced salvation is better than eternal damnation.

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FOOTNOTES

1. "Small Magazines Face Gravest Crisis," The Milwaukee Journal, May 28, 1973.

2. Mary L. Fischer, "The Use of COM at Los Angeles Public Library," The Journal of Micrographics, Vol. 6, No. 5 (May/June 1973), pp. 205-210. Periodicals are also frequently produced on microfilm, but Miss Fischer identifies (p. 209) five advantages which microfiche has over microfilm: lower cost for the film, less space needed, faster access to data, less expensive viewers, and less time for production.

3. The basic printing figures were provided by Kalmbach Press, Milwaukee, Wisconsin, which does both commercial and magazine printing. The figures were reviewed for general accuracy by Modular Publications, Inc., Senatobia, Miss., a new plant specializing in short-run periodicals. Microfiche costs were obtained from the Eastman Kodak Company.

4. Center for Research Libraries, "Background and Proposal for a National Lending Library for Journals," a report prepared for January 5, 1973 meeting of the Council for the Center for Research Libraries, Chicago, Illinois, p. 30.

5. Ibid., p. 33.

6. Several micropublishing companies -- for example, Bell & Howell and Xerox University Microfilms -- sell microfiche versions of current periodicals. A provision in the contracts which these companies have with magazine publishers, however, prohibits the micropublishing companies from making the microfiche versions available concurrently with the printed versions. Thus, at the present time, concurrent publication of microfice and printed versions of periodicals is possible only if the magazine publishers themselves initiate and control the microfiche operation.

7. See the Center for Research Libraries report cited above. Because of economic pressures, libraries belonging to the Center have already cancelled an average of 300 periodical subscriptions (with some libraries cancelling as many of 2,000 subscriptions); in addition, they are cooperating in the establishment of national and international lending libraries for periodicals. Such lending libraries will enable the individual libraries to further reduce their own periodical holdings while continuing to serve their patrons by borrowing copies or photo reproductions of periodical articles from the central lending libraries.

Table 1

COMPARATIVE SUBSCRIPTION PRICES

1967 - 1972-73

Publication (frequency)	1967 Price	1972-73 Price	Percentage Increase
Chemical Reviews (BM)	$20.00	$39.00	95%
Child Development (Q)	15.00	25.00	66%
Christian Century (W)	7.50	12.00	60%
Humanist (BM)	3.00	7.00	133%
Insulation/Circuits (M)	15.00	25.00	66%
Journal of Chemical Physics (SM)	35.00	110.00	214%
Philosophy of Science (Q)	10.00	15.00	50%
Physics of Fluids (M)	20.00	47.00	135%
Railway Age (W)	6.00	15.00	150%
Telecommunications & Radio Engineering (M)	75.00	135.00	80%
Textile Technology Digest (M)	25.00	100.00	300%

Table 2

MICROFICHE COMPARED TO PRINT

(96 pages - 8 1/2" x 11" - Black on white)

Ten Halftones

Number of Copies	Cost of Microfiche	Cost of Print	Savings Using Fiche*
1,000	$175	$1,105	$930
5,000	$700	$2,225	$1,525
10,000	$1,330	$3,625	$2,295
50,000	$6,490	$7,225	$735
75,000	$9,675	$10,115	$440

*Excluding circulation costs.

Table 3

MICROFICHE COMPARED TO PRINT

(Four-color Reproduction on One Signature)

Ten Color Separations

Number of Copies	Cost of Microfiche	Cost of Print	Savings (or Loss) Using Fiche*
1,000	$500	$2,955	$2,455
5,000	$2,500	$4,075	$1,575
10,000	$5,000	$5,475	$475
50,000	$25,000	$11,400	($13,600)
75,000	$37,500	$13,550	($23,950)

*Excluding circulation costs

Table 4

MICROFICHE COMPARED TO PRINT

(192 pages - 6" x 9" - Black on white)

Number of Copies	Cost of Microfiche	Cost of Print	Savings (or Loss) Using Fiche*
1,000	$348	$1,500	$1,152
5,000	$1,398	$2,840	$1,442
10,000	$2,658	$4,440	$1,782
50,000	$12,978	$12,940	($38)
75,000	$19,429	$15,340	($4,089)

*Excluding circulation costs